

Thank you for the opportunity to make a submission to Dendrobium Mine Extension Project (SSI-33143123). I strongly oppose this new proposal, 'the Project'.

Having read the Project's EIS Summary & as much of the complete EIS & appendices that I have had time to do, plus new research on mitigation of GHGs from Australian coal mines, expert opinions on Upland Swamps, offsetting & koalas, & considering the risks to the Greater Sydney drinking water catchment that this new proposal from IMC still poses, I do not believe it has addressed the issues raised in the Independent Planning Commission's determination of the previous application, SSD-8194. Nor does it justify the claim that the BlueScope steel works is totally reliant on the coal from the Dendrobium mine.

The turn of events that lead to the Dendrobium mine's unprecedented State Significant Infrastructure classification, a first for a coal mine in NSW, means that the Minister for Planning, Anthony Roberts, has the sole responsibility in determining the outcome for the Project and the fate of a large section of the Metropolitan Special Areas of the Greater Sydney drinking water catchment, the cultural heritage of the area, its landscape and biodiversity including the now listed endangered koalas there. As well as the global impacts of a very large contribution of greenhouse gas emissions that will add to NSW & Australia's impact on the climate. All these issues need to be considered not just on potential impacts to the wellbeing of the community now, but in the context of intergenerational equity, - which will be the legacy we leave future generations.

This is a large responsibility for one person & like many in the community I am very concerned that the assessment process is clearly independent of political or commercial interference. I sincerely request the Minister to engage the Independent Planning Commission (IPC) for expert advice to assess this proposal, as the IPC panellists are the most trusted by the community for in-depth & independent assessment. To ensure transparency I also request that the advice is made public.

Mine Plan & impacts on Greater Sydney's drinking water:

It is well documented that with the start of longwall coal mining under the Special Areas of the Sydney drinking water catchment subsidence damage from mining increased resulting in a large increase in water loss & damage to water courses & the Upland Swamps. In both cases much is permanent & irreversible. As the Independent Expert Panel for Mining in the Catchment (IEPMC) outlined comprehensively in its Nov 2018 report the damage accelerated & continues at alarmingly high incidence levels from 2002 when longwall mining started at Dendrobium.

The water holding capacity of the swamps & slow fed to the reservoirs is the key that has made the Greater Sydney drinking water system so successful & reliable for such a long time. The Upper Nepean System is an engineering feat that was completed in 1888, it has been serving us well here in the Illawarra, the Macarthur region, the Wollondilly Shire and Metropolitan Sydney for over 130 years. In the 1880s a Royal Commission recommended the development of the Upper Nepean Scheme to "*.... make Sydney the best watered of Australian cities, ... and will minister to the health, comfort, and prosperity of its inhabitants to distant times*". The Nepean System was extended later & now includes the Avon & Cordeaux dams.

All of Dendrobium's coal extraction is between or abuts these 2 reservoirs.

IMC in their EIS, anticipate subsidence from the longwall mining method they plan to use. Our drinking water supply is the product of the wonderfully progressive planning of the 1880's. Its beneficial legacy for us here in the 21st century is in jeopardy if longwall mining is allowed to continue to damage the Upland Swamps & water courses & threaten the dams in the Special Areas of Sydney's drinking water catchment. As the IPC found for the previous proposal this is not consistent with intergenerational equity for future generations here in the Illawarra or the rest of Greater Sydney.

Impact on water & biodiversity & proposed compensation & offsetting:

There is no proven method to restore damage from subsidence, therefore water loss from mining subsidence is permanent.

Modelling & Monitoring:

1/ Modelling for estimates is only as accurate as the information it is based on, there is no current system that can accurately anticipate the complete geological change from a subsidence event & the subsequent water quantity that is lost:-

An agreement between Government & IMC, as outlined in the EIS summary p EI32 *"post-mining – up-front payment made upon approval of the first Extraction Plan for the Project to account for predicted post-mining surface water losses (value of payment based on the present value of modelled post-mining losses and IPART prices)."* - will certainly not compensate future generations for the loss of drinking water in perpetuity as there is no way of calculating that quantity or what the value that water will be at any time in the future.

The IEPMC reports of a few years ago could not be certain of estimates of lost water. In the EIS IMC admit they cannot directly measure water lost to mine inflows (EIS p7-25).

2/ Monitoring is impeded because underground mining conditions make access & equipment operation unreliable:-

IMC state *"Since 2015 there have been repeated issues with the flow meter and access to this equipment."* (EIS p7-25). The challenging conditions in underground mines seem to plague much of their operations, not least their monitoring that informs their modelling. The uncertainties posed from difficult monitoring conditions, faulty equipment, lack of baseline data or the inability to know all geological features of a mining area are reason enough to question modelling that is used to estimate the risks of mining in the water catchment.

3/ Monitoring & assessment of mining damage has largely been left to the mining industry which has a vested interest to under report:- This has been highlighted on numerous occasions by scientists, conservationists & I believe the IEPMC.

Conversely what also alarms me are the estimates of water lost daily to mine inflows, as outlined in EIS Table 7-5. Why would those figures not alarm the proponent or the assessment authority when they concern WaterNSW & the IEPMC?. But most particularly what convinces me that this proposal should not be approved is the damage that has been

done to the catchment by long wall mining & that the Dendrobium mine has been the cause of the most of that damage.

Economic reasons hold no water:

WaterNSW is the government agency holding the statutory responsibility to keep the Metropolitan Special Area & its infrastructure fit to supply the Greater Sydney region with adequate, good quality drinking water. However, IMC has moved little in this latest mine expansion proposal to respect this or account for the detrimental permanent impact it poses to the essential water supply for the biggest city in Australia as evidenced by this statement *“Avoidance of streams defined as “significant” by WaterNSW and upland swamps would result in a mine plan that is not economically viable” (EIS Summary p14)*

Similarly, statements about modifying its mining method rate the company’s economic success as a priority to the substantial risks to Sydney’s water supply its mining poses. *“Reductions in longwall width and/or cutting height to limit the predicted height of connective fracturing would adversely affect the financial sustainability of the Project and are not considered reasonable and feasible given that: • Significant reductions in longwall widths/cutting heights to limit the predicted height of fracturing using the Tammetta Equation to below the Bald Hill Claystone would not be financially sustainable, given the significantly increased operating costs and reduced resource recovery.” (EIS p7-24)*

This is not acceptable. The Greater Sydney drinking water system is an irreplaceable common. (As defined by Wikipedia - The **commons** is the cultural and natural resources accessible to all members of a society, including natural materials such as air, water, and a habitable Earth.) The Greater Sydney drinking water system belongs to the people of Australia & the people of Greater Sydney rely on it for our wellbeing.

GHG emissions:

Should it be approved the proposed Project promises to add another 800,000 tonnes of CO₂-e to the atmosphere every year until 2041. This figure is Scope 1 emissions only, it does not account for Scope 2 or 3 or for fugitive emissions that are ongoing from the exposed coal seam while the mine is operating, & then increases when the mine closes. This is a huge threat to the climate currently when the Inter-governmental Panel on Climate Change (IPCC) repeatedly states urgent action is necessary to avoid catastrophic climate change that our current rate of emissions is propelling us towards. The IPCC states we need to reach net-zero by 2036 but this is unlikely if coal mines like this one are approved to 2041. Approval will also mean a great challenge for NSW to achieve 50% reduction in state-wide emissions by 2030. We need less GHG emissions & the approval process needs to consider this in the context of fugitive emissions that currently are under reported & not accounted for after mine closure. The global think tank on climate, Ember, has very recently produced a report *“Tackling Australia’s Coal Mine Methane Problem”* which comprehensively addresses fugitive emissions of methane from coal mines <https://ember-climate.org/insights/research/tackling-australias-coal-mine-methane-problem/>

Satellite imagery can now record methane emissions and pinpoint emitters. It has confirmed that industries have, & continue, to under report their emissions, something that many concerned people have been saying for years. The above Ember report states *“Australia’s*

coal mines have a methane problem. In 2019, they released 68% of Australia's methane emissions from the energy industry overall, making coal mines a larger contributor than both oil and gas. What's more, new evidence suggests emissions are underreported and are actually significantly higher than this. In NSW, the two highest emitting mines, namely Appin and Tahmoor underground mines, were also the gassiest and emitted 24% of CER reported coal emissions whilst producing less than 3% of NSW's coal."

IMC's intention to flare its methane emissions must be assessed with careful consideration. As well as the Tahmoor & Appin mines, Dendrobium is gassy too, perhaps some areas of the mine more than others. I note that IMC says it requires time to de-gas Area 3C, which is already approved, before starting mining there. It is using this as a support argument for this proposal to have Area 5 approved as it wishes to start mining there immediately to facilitate continued coal extraction during the time that Area 3C is de-gassed.

There are technologies available now to reduce methane emissions from coal extraction besides flaring which simply turns the methane into CO₂, an equally lethal gas to the climate though it just takes a little more time. I ask why then IMC isn't employing those technologies now for all its coal extraction? The assessment of this proposal should clearly point to the use of flaring as a regressive & harmful practice to the climate & air quality by either including a condition on approval to replace flaring with cleaner practices for the whole of the mine, or preferably use it as another reason why the proposal is unsuccessful.

Aboriginal Heritage: IMC's Dendrobium mine has a history of damaging Aboriginal Heritage within its mining area. ABC Illawarra reported on 2 Oct 2020 *"New destruction has been recorded at another site in the Illawarra escarpment, above South32's Dendrobium Mine. (ABC Illawarra: Tim Fernandez)." "Mr Knight (Paul Knight, CEO, Illawarra Local Aboriginal Land Council) said while destruction of culture was allowed through the mining licence approved by the NSW Government, it raised questions about the company's moral obligations."* <https://www.abc.net.au/news/2020-10-02/illawarra-indigenous-sites-being-destroyed-behind-barricades/12717976>. Mr Knight points out in this article that the government process for approval requires proponents to only report & monitor "... and not think about what we have to repair, correct or even avoid, it leaves it to the company's moral compass."

Rio Tinto's destruction of the Juukan Gorge site in WA has heightened community awareness of the injustice of government planning systems that don't properly protect sites of priceless Aboriginal heritage that have importance to the world. Their lack of protection rightly feeds a negative perception of Australia globally. These sites are either sacred or of high importance to Aboriginal people, recognition of their importance is growing exponentially at this time among Australians. It is essential they are protected in perpetuity for future generations, I would think for political reasons as well as preserving them for their intrinsic value.

Equally many people are disgusted with the off-hand, irresponsible behaviour of big industry & developers. IMC's statement – *"Avoidance of directly mining beneath previously identified*

Aboriginal heritage sites (which are identified as having low or medium archaeological [scientific] significance) would result in a decrease in resource recovery and a mine plan that may be less economically viable....” (EIS summary P14), - typifies this sentiment from some industry players.

The subsequent Federal Government inquiry into the destruction at Juukan Gorge, https://www.aph.gov.au/Parliamentary_Business/Committees/Joint/Northern_Australia/CavesatJuukanGorge/Report/section?id=committees%2freport%2f024757%2f77690 found it was one of “countless instances where cultural heritage has been the victim of the drive for development and commercial gain” & “3.1 The evidence presented to the Committee indicates that conflict over the protection of Aboriginal and Torres Strait Islander peoples’ heritage and the loss of Aboriginal and Torres Strait Islander peoples’ heritage is not isolated to Juukan Gorge.” & “This report has demonstrated that time and time again, states have prioritised development over the protection of cultural heritage—including through the enactment of site-specific development legislation intended to further dispossess Aboriginal and Torres Strait Islander peoples.”

It also found that – “The Commonwealth, state and territory governments should endorse a set of standards that set best practice in the management of cultural heritage sites and objects and the development of cultural heritage management plans.” In the spirit of the findings of this inquiry & if these standards are still not in place the assessing authority for this proposal has a moral responsibility to ensure the protection of Aboriginal heritage from damage from this mining.

I wish also to bring to your attention that the Aboriginal Heritage sites IMC has identified in its Dendrobium mining lease, including Area 5, are those classified as “scientifically important” (ie of archaeological importance) only. It states in its EIS it has started consultation “with registered Aboriginal parties and other Aboriginal stakeholders” regarding the cultural value of the mining lease area. However, at the time the EIS for the Project was due the cultural value consultation process was far from being completed – “IMC has **initiated** additional consultation via a cultural values engagement process to identify and better understand the cultural values, including both tangible and intangible values and Aboriginal places, associated with the Project area and surrounding landscape.” (EIS p7-86) [my emphasis]. This lack of preparation is so inappropriate at a time when the mining industry needs to properly consider its social license responsibilities & the detrimental impact its activities can have on cultural landscape. IMC freely admit their lack of understanding of Aboriginal cultural heritage in a proposal that if approved could damage far more than the 6 sites it has identified, according to the ILALC, an authority on the subject. To add insult to injury IMC say - “If the Project is approved, IMC would continue to assist with facilitation of access to the Project area and surrounds (where practicable) for Aboriginal stakeholders in consultation with WaterNSW.” (EIS p7-86). This lack of preparation & understanding must be considered in the assessment of the Project, the

alternative of more damage to Aboriginal Cultural Heritage is unacceptable at this time in our history.

Upland Swamps: In this document & repeatedly in submissions to the Dept of Planning & the IEPMC about mining in Special Areas I have argued that the importance of Upland Swamps is paramount to the dams of the Sydney drinking water catchment. Greater Sydney's water supply would not function without the service provided naturally by the Upland Swamps to store water in wet times & release it slowly to the dams in dry times. The subsidence that has taken place since coal mining started under the Special Areas & accelerated since the introduction of longwall mining is in my view the principal reason why mining should cease now. As the climate gets hotter & the population of Greater Sydney expands at unprecedented rates, we can no longer afford any loss of this particularly good water supply, a loss which is inevitably permanent.

It is well documented in various scientific studies that draining wetlands desiccates peat which can lead to serious fires that are hard to extinguish. Wetlands that become woodlands or scrublands because of changed ground moisture increase fire hazard and climate change will continue to exacerbate the fire risk with increased droughts & hotter temperatures. IMC has noted this in *"Bushfire Risk" (EIS p7-62)*. However, the section continues *"... the Illawarra Climate Change Snapshot estimates less than one additional day per year of significant bushfire risk in the Illawarra Region (OEH, 2014c)."* This section then concludes with a statement that the Dendrobium Mine Fire Management Plan will be able to deal with any increased fire risk.

Firstly, the Illawarra Climate Change Snapshot that I have read gives a much more serious outlook for the Illawarra of expected temperature rise of 0.6 degrees by 2030 & 1.9 by 2070. I also suspect as it was formulated in 2014 it may be considerably out of date, certainly with the most recent IPCC reports & is not a worthy document to use as reference in an EIS. I therefore believe this is yet another instance of sloppy & arrogant reporting by IMC that highlights its disregard for public safety, for its responsibility to the public land it leases & for the environmental importance of Upland Swamps as classified Ecological Endangered Communities, EECs, that are being damaged & drained by the subsidence caused by its Dendrobium mine. Secondly, there appears to be no correlation in this thinking that links initial impacts on the environment from mining to ongoing environmental degradation as the planet heats. What happens then when the mine closes? Who will fight the fires then? And who will bear the cost when IMC are gone?

Upland Swamp offset sites: Dr Sharyn Cullis on behalf of the George's River Environmental Alliance presented a report to the Inquiry into NSW Biodiversity Offsets Scheme. She used the case of the Upland Swamps of the Sydney drinking water Special Areas as an example of the failure of the offsetting system. She told the inquiry "Past longwall mining consents have resulted in the cracking, draining and 'death' of many of these swamps," and argued it

had reached the point where there were no remaining alternative swamp sites outside of the coalfields that could be used as offsets.

Surely this means there is nowhere that the Upland Swamps can be matched like-for-like as required by the offsetting system. Therefore, buying credits or paying the government to generate water somewhere else is flaunting that system as well as the law in NSW that is supposed to protect EECs, the Biodiversity Conservation Act 2016.

Equally I note that in his letter to the Dept of Planning, 20/9/2019, regarding Dendrobium's SSD8194 that was disallowed by the IPC early 2021, Michael Saxon, Director of S/E Branch, Biodiversity & Conservation Division, Environment, Energy & Science stated that the Maddens Plains offset site proposed by IMC to compensate anticipated mining damage to Upland Swamps was legally not available. He also stated that track rehabilitation around Upland Swamps in National Parks was not an available offsetting option because the NPWS was legally required to manage those conservation areas.

Koalas: The timing of the Dendrobium extension proposal may have preceded the classification of koalas in NSW as endangered, this however does not mean that that law can be bypassed. Independent assessment of the koala population in the mining area contradicts IMC's survey & suggests there are significant numbers of koalas in the area & they will be impacted by both habitat & water loss caused by the Project. I support all that Tom Kristensen says on this issue & request that another independent survey is done with his support before any assessment is made on the Project.

BlueScope's reliance on Dendrobium coal: A "virtual town hall" meeting in Wollongong about BlueScope's Steelworks blast furnace reline clearly illustrated that its Port Kembla Steelworks was not solely dependent on the coal from the Dendrobium mine. BlueScope's general manager of manufacturing at that time, David Bell told the audience significant work on the wharves had been performed which would allow the steelmaker to bring in coal from elsewhere if need be. "There's lots of other projects going on and we've got a bright future for the region and for steelmaking in the Illawarra."

Since then, I have been to a presentation by BlueScope & attended a community information session regarding the reline of its blast furnace. On both occasions the spokespeople were optimistic about the viability of the Port Kembla Steelworks. The reline of the blast furnace is a very big financial commitment for the company even with government support. The plan has deliberately incorporated the ability to use gas & hydrogen to reduce coking coal to future proof the company's steel production in anticipation of both government regulations & likely conditions from trading partners that will require emissions reduction. It will also facilitate cheaper fuel options that greener technologies are expected to offer in the future. This casts considerable doubt on such statements made by IMC in their EIS that the Port Kembla Steelworks & its 4,500 employees plus contracted businesses are reliant on the approval of the Dendrobium expansion. It also casts doubt on government statements that the reason the Dendrobium mine was reclassified SSI was to ensure the ongoing operation of the BlueScope Steelworks at Port Kembla.

Inconsistency with previous mining approval:

There are numerous instances in the Project's EIS where the proponent claims economic reasons for not modifying their mine plan whether it is mining technique or following advice from WaterNSW to avoid "significant" streams or Aboriginal Heritage sites. An approval for this longwall mine design would be starkly inconsistent with the decision that rejected WCL Russell Vale mine longwall extension. That company's radical changes to a bord & pillar mine plan attests to the economic viability of that mining method.

Conclusion: IMC is a private company that exports approximately 88% of the coal it extracts from the Metropolitan Special Areas of the Greater Sydney drinking water catchment for its own economic benefit, approximately just 12% benefits anyone in Australia. The state royalties & federal taxes it pays in Australia will never compensate for the loss of water, or the environmental & cultural damage it is responsible for in this publicly owned place particularly as the legacy of that damage will be passed on to future generations. All of this must be properly recognised & considered in the assessment for this proposed mine expansion.

The Dendrobium mine has rightfully gained a reputation for particularly aggressive mining techniques that it refuses to change because it values its profits well above the climate, the health of the water catchment or the people of Greater Sydney, which includes us in the Illawarra, who rely on it for our water. I believe the examples I have given here demonstrate that IMC is not a suitable custodian of this public land. Please do not approve this mine extension.

Annie Marlow, 34 Hertford St Berkeley 2506